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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,209	10/24/2003	Ming-Chin Chang	250122-1040	2288

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EXAMINER


VU, PHU

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/693,209	Applicant(s) CHANG ET AL.	
	Examiner Phu Vu	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see remarks, filed 11/1/05, with respect to claims 1-20 have been fully considered and are persuasive. The rejections of claims 1-20 have been withdrawn as well as the finality of the previous office action, however due to amendment previously this office action will be made final. The new grounds of rejection are made in view of Baek and Bijlsma presented below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baek US 6697135 in view of Kim 5963285.**

**Regarding claim 1**, Baek teaches a transfective liquid crystal display device implementing a color filter having various thicknesses comprising: a lower substrate (fig. 8 300), a lower electrode (340) wherein the lower electrode has a transmission portion (corresponds to 320b) and reflective portion (corresponds to 320a). An upper substrate opposing the lower substrate, wherein a side of the upper substrate has a color filter having a first thickness portion and a second thickness portion, the first thickness portion (130b) is thicker than the second thickness portion (130a), and the

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first thickness portion corresponds to the transmissive portion and the second thickness portion corresponds to the reflective portion. Baek fails to show an insulation layer on the first substrate however, Baek discloses formation of a TFT on the substrate. Kim shows a conventional TFT on a substrate with a gate insulation layer on the substrate as the conventional structure of a TFT (fig. 1a element 50). Although its teachings are in admitted prior art that the reference attempts to improve upon, Kim's embodiments also show this gate insulating layer (see fig. 4A element 150) therefore, any deficiencies Kim attributes to the prior art do not apply to the conventional structure of the insulation layer of a TFT formed on a substrate. Conventionality has associative benefits of reliability, and generally lower cost to implement. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to implement an insulation layer on the substrate to gain benefits of conventionality.

**Regarding claim 2**, Baek teaches a thick color resist layer formed on the upper substrate. The limitation of the thin color resist is formed by removing a part of the thick color resist layer in the second regions is a product-by-process limitation and does not further limit the claim to provide additional structure.

**Regarding claim 3**, Baek teaches the organic transparent planarization layer to be a BCD resin (column 6 line 41).

**Claims 11-12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bijlsma US 20010045560 in view of Suzuki US 6801274.**

**Regarding claim 11**, Bijlsma teaches a transfective liquid crystal display device implementing a color filter having various thicknesses, comprising: a lower substrate

(fig. 4 element 3) having an insulating layer (fig. 4 element 16) thereon, a lower electrode (6) formed on the insulation layer wherein the lower electrode has a transmissive (gap in element 7) and reflective portion (7); a color filter (8) having various thicknesses formed on the lower electrode, wherein the color filter has a first thickness portion and a second thickness portion, the first thickness portion is thicker than the second thickness portion, and the first thickness portion corresponds to the transmission portion, and the second thickness portion corresponds to the reflective portion; Bijlsma fails to teach a planarization layer over the color filter however Suzuki teaches an organic planarization layer (overcoat layer) formed over a color filter to protect the color filter. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to apply an organic planarization layer to the color filter to serve as a protective layer.

**Regarding claim 12**, Bijlsma teaches a thick color resist layer formed on the upper substrate. The limitation of the thin color resist is formed by removing a part of the thick color resist layer in the second regions is a product-by-process limitation and does not further limit the claim to provide additional structure.

**Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bijlsma in view of Suzuki in view of Ahn US 20010040665.**

**Regarding claim 13**, Bijlsma and Suzuki teach all of the limitations of claim 13 except for the transparent planarization layer being BCB or acryl resin. Ahn teaches BCB or acryl having high resistance and serving as a protective layer. Therefore, it

would have been obvious to one of ordinary skill in the art to use BCB or acryl resin in order to further protect the color filter and provide insulation.

**Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baek in view of Kim in view of Brewer US 4876165.**

**Regarding claim 4,** Baek and Kim teach all the limitations of claim 4 except the resist layer of positive photoresist. Brewer teaches forming color filters of positive photoresist material is conventional (see column 3 lines 28-45 ). Conventionality has associative benefits of normally lower cost to implement and reliability. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a color filter of positive photoresist material to gain benefits of conventionality.

**Regarding claims 5-7,** claims 5-7 recite product-by-process limitations that do not impose any structural limitations to the device as the claims are directed to a device used to form the color filters not the structure of the color filters themselves other than the color filter layer formed of a positive photoresist (see claim 4 rejection under Brewer).

**Claims 4 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baek in view of Kim in view of Watanabe US 5093738.**

**Regarding claim 4,** Baek and Kim teach all the limitations of claim 4 except the resist layer comprising a positive or negative photoresist. Watanabe teaches formation of a negative photoresist

**Regarding claims 8-10,** claims 8-10 recite product-by-process limitations that do not impose any structural limitations to the device as the claims are directed to a device

used to form the color filters not the structure of the color filters themselves other than the color filter layer formed of a negative photoresist (see claim 4 rejection under Watanabe).

**Claims 14-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bijlsma in view of Suzuki in view of Brewer US 4876165.**

**Regarding claim 14**, Bijlsma and Suzuki teach all the limitations of claim 4 except the resist layer comprising a positive or negative photoresist. Brewer teaches forming color filters of positive photoresist material is conventional (see column 3 lines 28-45 ). Conventionality has associative benefits of normally lower cost to implement and reliability. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a color filter of positive photoresist material to gain benefits of conventionality.

**Regarding claims 15-17**, claims 8-10 recite product-by-process limitations that do not impose any structural limitations to the device as the claims are directed to a device used to form the color filters not the structure of the color filters themselves other than the color filter layer formed of a positive photoresist (see claim 14 rejection under Brewer).

**Claims 14 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bijlsma in view of Suzuki in view of Watanabe US 5093738.**

**Regarding claim 14**, Bijlsma and Suzuki and teach all the limitations of claim 4 except the resist layer comprising a positive or negative photoresist. Watanabe teaches formation of a negative photoresist that has greater precision and flatness in the color

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(column 1 lines 60-65). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a negative photoresist to gain added precision in patterning color filters.

**Regarding claims 18-20**, claims 8-10 recite product-by-process limitations that do not impose any structural limitations to the device as the claims are directed to a device used to form the color filters not the structure of the color filters themselves other than the color filter layer formed of a negative photoresist (see claim 4 rejection under Watanabe).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562.

The examiner can normally be reached on 8AM-5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571)-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu Vu  
Examiner  
AU 2871

*Andrew Schechter*  
**ANDREW SCHECHTER**  
**PRIMARY EXAMINER**